## **ABSTRACT**

The present invention provides a research model for screening compounds suspected of modulating the CD40L/CD40R signaling pathway by interfering with the CD40L/CD40R signaling pathway in an animal or human. Additionally, methods are provided for causing a desired biological effect in an individual or system afflicted with neuronal inflammation, brain injury/trauma, a tauopathy, or an amyloidogenic disease, as well as for the identification of compounds and/or small molecules capable of disrupting the CD40L/CD40R signaling pathway.